UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

DATE: MAR 2 2 2016

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
Kaiser Aluminum Fabricated Products, LLC, Heath, OH

FROM: Sara Loiacono, Environmental Scientist
AECAB (IL/IN)

THRU: Nathan Frank, Section Chief
AECAB (IL/IN)

TO: File

BASIC INFORMATION

Facility Name: Kaiser Aluminum Fabricated Products, LLC (Kaiser Aluminum)

Facility Location: 600 Kaiser Drive, Heath, OH 43056

Date of Inspection: March 9, 2016

Lead Inspector: Sara Loiacono, Environmental Scientist

Other Attendees:
1. Natalie Topinka, Environmental Scientist, US EPA
2. Anthony Klapac, EHS Manager, Kaiser Aluminum
3. Christian Feisel, General Manager, Kaiser Aluminum

Purpose of Inspection: Inspect for general facility compliance and lead emissions

Facility Type: Secondary Aluminum

Regulations Central to Inspection: 40 CFR Part 63 Subpart RRR – National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production; Lead NAAQS

Arrival Time: 10:45 AM
Departure Time: 3:05 PM

Inspection Type:

☒ Unannounced Inspection
☐ Announced Inspection

OPENING CONFERENCE

☒ Credentials Presented
☒ CBI warning to facility provided

The following information was obtained verbally from Anthony Klapac or Christian Feisel unless otherwise noted.

Process Description:
Kaiser Aluminum receives and processes aluminum scrap, which is used to produce various aluminum alloys as extrusion billet and redraw rod. Four natural gas-fired melting furnaces exist within the facility, numbered #3-6. Furnaces #4, 5, and 6 process only non-lead alloys. Furnace #3 is the sole furnace for creating lead-based alloys, although it is used for non-lead alloys as well. A cold-charge method is used at the facility; however, some charge, particularly pure metal charge, is dried in an annealing furnace prior to being charged into the melters. With the dome lid removed, charge is added by crane to a melting furnace, the dome is replaced, and the charge is heated to approximately 1300-1500°F. Powdered flux is then added to remove impurities. After fluxing, the furnace door is opened and a forklift attachment is used to skim dross from the surface of the molten bath into a dross bin. After skimming, the furnace dome is removed for alloying, where the molten metal is stirred and the chemistry of the alloy tested before sending it through a trough to the holding furnace. From the holding furnace, molten alloy is sent through a unit called a SNIF where gases, such as argon, nitrogen, and chlorine are added to degas the molten material. Molten alloy is then poured into a vertical casting table where it is cast into extrusion billets ranging from 6" – 15" in diameter.

Staff Interview: Kaiser Aluminum typically operates 24 hours a day, 7 days a week, but since October 2015 the facility has been operating primarily Monday through Friday due to decreased demand. Currently, the facility casts over 70 specific alloy chemistries. The average cycle time per batch is 5.5 – 6 hours, and the facility averages 3 – 3.5 batches ("drops") per day per furnace. The existing furnaces were constructed in the 1970s.

No painted scrap, scrap with polyvinyl coating, or baled material is accepted at the facility. Scrap is purchased through scrap brokers, with a large amount of the facility's scrap coming back as turnings from its customers. Scrap produced within the facility is recycled for use as charge; heavy scrap is reused without further processing, whereas dross and chips are sent to a third-party to be processed into ingots before reuse. No pre-treatment of scrap is conducted at the facility.

The lead-based alloy currently produced at the facility is identified as K211. Although the facility has produced other lead-based alloys in the past, K211 is the only lead-based alloy that has been produced in at least the last two years. This alloy is produced using an injection method

where lead shot is injected directly into the metal bath in order to minimize surface burnoff. Since Furnace #3 is used for both lead-based and non-lead alloys, it is cleaned using a wash cast between production of lead-based alloys and non-lead alloys. Kaiser Aluminum is currently working on revising their lead emission calculations. The facility recently proposed a new lead emission factor to Ohio Environmental Protection Agency, which is based on an average of the results of stack tests conducted in 1978 and 1996. The lead emission factor previously utilized by the facility was based only on the results of the 1996 stack test. The most recent stack test at the facility was conducted in October 2014, but only hydrogen chloride (HCl) and chlorine (Cl_2) emissions were measured during the test.

Weekly visible emission observations are conducted by Mr. Klapac. No emissions controls are in place at the facility.

TOUR INFORMATION

EPA toured the facility: Yes

Data Collected and Observations:
We observed the furnace charging, fluxing, dross skimming, alloying, and extrusion rod casting processes. The external overhead doors next to the melting furnaces were open during the time of the tour. During the dross skimming process on Furnace #3, we noted fugitive emissions exiting the furnace door. We also observed visible emissions from the Furnace #3 stack shortly after the dross skimming process. Mr. Klapac stated that most visible emissions occur during the fluxing process; however, fluxing was not taking place in Furnace #3 when we observed the emissions from the stack.

We noted visible dust on the facility floor and various surfaces within the facility. During the tour, an employee on a riding industrial sweeper was sweeping dust from the facility floors. We observed a visible cloud of dust around the sweeper. Mr. Klapac says this sweeping process usually takes place once per shift. The dust recovered from the sweeping process is stored with recovered dross in open piles and then sent offsite to a third-party for recovery of any usable metal. We observed that the dross and dust storage area is open to the atmosphere through the overhead doors in that part of the building.

We noted water on the floor in the scrap storage area. Mr. Klapac stated that the water is coming up from beneath the building floor and the facility is working on a plan to correct that problem.

CLOSING CONFERENCE

Requested documents:

- Chlorine spreadsheet, including flux chlorine content for each flux, monthly use, and 12-month rolling average
- Revised lead emission spreadsheet
- Proposed lead emission factors and cover letter that were sent to Ohio Environmental Protection Agency in March of 2016
- Facility and melting area diagrams (maps)

Concerns: We noted concerns with the accuracy of the lead emission factor used to determine lead emissions. We also noted concerns with fugitive emissions at the facility. We conveyed these concerns to Mr. Klapac and Mr. Feisel.

SIGNATURES

Lead Inspector: Sarah J Loracono Date: 3/21/16

Section Chief: _____ Date: 3/22/16

Facility Name: Kaiser Aluminum Fabricated Products, LLC
Facility Location: 600 Kaiser Drive, Heath, OH 43056
Date of Inspection: March 9, 2016

APPENDICES AND ATTACHMENTS

Appendix A: Photo Log

- Inspection photos: documented in Appendix A, attached as external storage media and also maintained at:

C:\Users\sloiacon\Documents\Kaiser Aluminum\Inspection 03-09-16\Inspection Photos

Exemption 4-Confidential Business Information

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Facility Name: Kaiser Aluminum Fabricated Products, LLC
Facility Location: 600 Kaiser Drive, Heath, OH 43056
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APPENDIX A: PHOTO LOG

- P3090002.JPG – Extrusion billet
- P3090003.JPG – Extrusion billet and homogenization furnaces
- P3090004.JPG – Casting area (melting furnaces along left)
- P3090005.JPG – Riding sweeper in furnace area
- P3090006.JPG – Melting Furnace #5
- P3090007.JPG – Dross skimming, Furnace #3
- P3090008.JPG – Visible emissions from dross skimming, Furnace #3
- P3090009.JPG – Furnace #5 charging process
- P3090010.JPG – Furnace #5 charging process
- P3090011.JPG – Confidential Business Information (CBI) – See attachment.
- P3090012.JPG – CBI – See attachment.
- P3090013.JPG – Dross storage area
- P3090014.JPG – Furnace #4 holding furnace; trough connecting to melting furnace in image left
- P3090015.JPG – Furnace #4: trough from holding furnace to SNIF
- P3090016.JPG – CBI – See attachment.
- P3090017.JPG – CBI – See attachment.